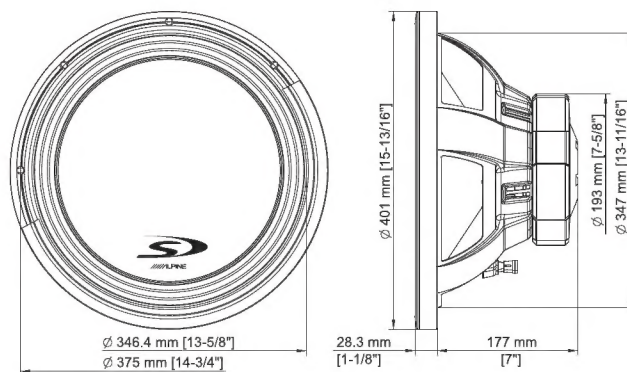
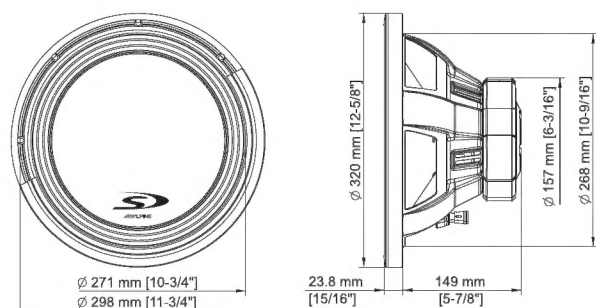


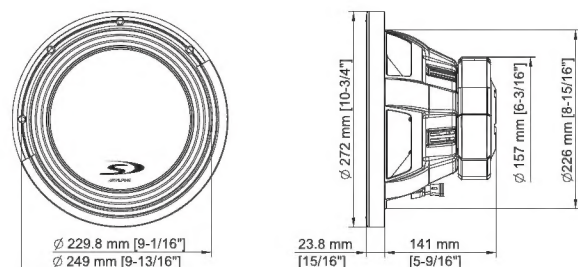
SWS-15D2  
SWS-15D4



SWS-12D2  
SWS-12D4



SWS-10D2  
SWS-10D4



## TYPE-S SUBWOOFER HAUT-PARLEUR D'EXTRÊMES GRAVES TYPE-S APPLICATION GUIDE GUIDE D' APPLICATION

### SWS-15D4

15 Inch Dual Voice Coil Subwoofer (4Ω)+(4Ω)  
Haut-parleur d'extrêmes graves à double bobine 15 po (4Ω)+(4Ω)

### SWS-15D2

15 Inch Dual Voice Coil Subwoofer (2Ω)+(2Ω)  
Haut-parleur d'extrêmes graves à double bobine 15 po (2Ω)+(2Ω)

### SWS-12D4

12 Inch Dual Voice Coil Subwoofer (4Ω)+(4Ω)  
Haut-parleur d'extrêmes graves à double bobine 12 po (4Ω)+(4Ω)

### SWS-12D2

12 Inch Dual Voice Coil Subwoofer (2Ω)+(2Ω)  
Haut-parleur d'extrêmes graves à double bobine 12 po (2Ω)+(2Ω)

### SWS-10D4

10 Inch Dual Voice Coil Subwoofer (4Ω)+(4Ω)  
Haut-parleur d'extrêmes graves à double bobine 10 po (4Ω)+(4Ω)

### SWS-10D2

10 Inch Dual Voice Coil Subwoofer (2Ω)+(2Ω)  
Haut-parleur d'extrêmes graves à double bobine 10 po (2Ω)+(2Ω)



ALPINE ELECTRONICSMARKETING, INC.  
1-7 Yukigaya-otsukamachi,  
Ota-ku, Tokyo 145-0067, Japan  
Tel: (03) 5499-4531

ALPINE ELECTRONICS OF AMERICA, INC.  
19145 Gramercy Place, Torrance,  
California 90501, U.S.A.  
Tel: 1-800-ALPINE-1 (1-800-257-4631)

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777 Supertest Road, Toronto,  
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Victoria 3803, Australia  
Tel: (03) 8787-1200

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Fletchamstead Highway, Coventry CV4, 9TW  
United Kingdom  
Tel: (2476) 719-500

ALPINE ELECTRONICS FRANCE S.A.R.L.  
98, Rue de la Belle Etoile, Z.I. Paris Nord,  
B.P. 50016, 95945, Roissy Charles de Gaulle  
Cédex, France  
Tel: (01) 4863-8989

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Viale C. Colombo 8,  
20090 Trezzano Sul Naviglio (MI), Italy  
Tel: (02) 484-781

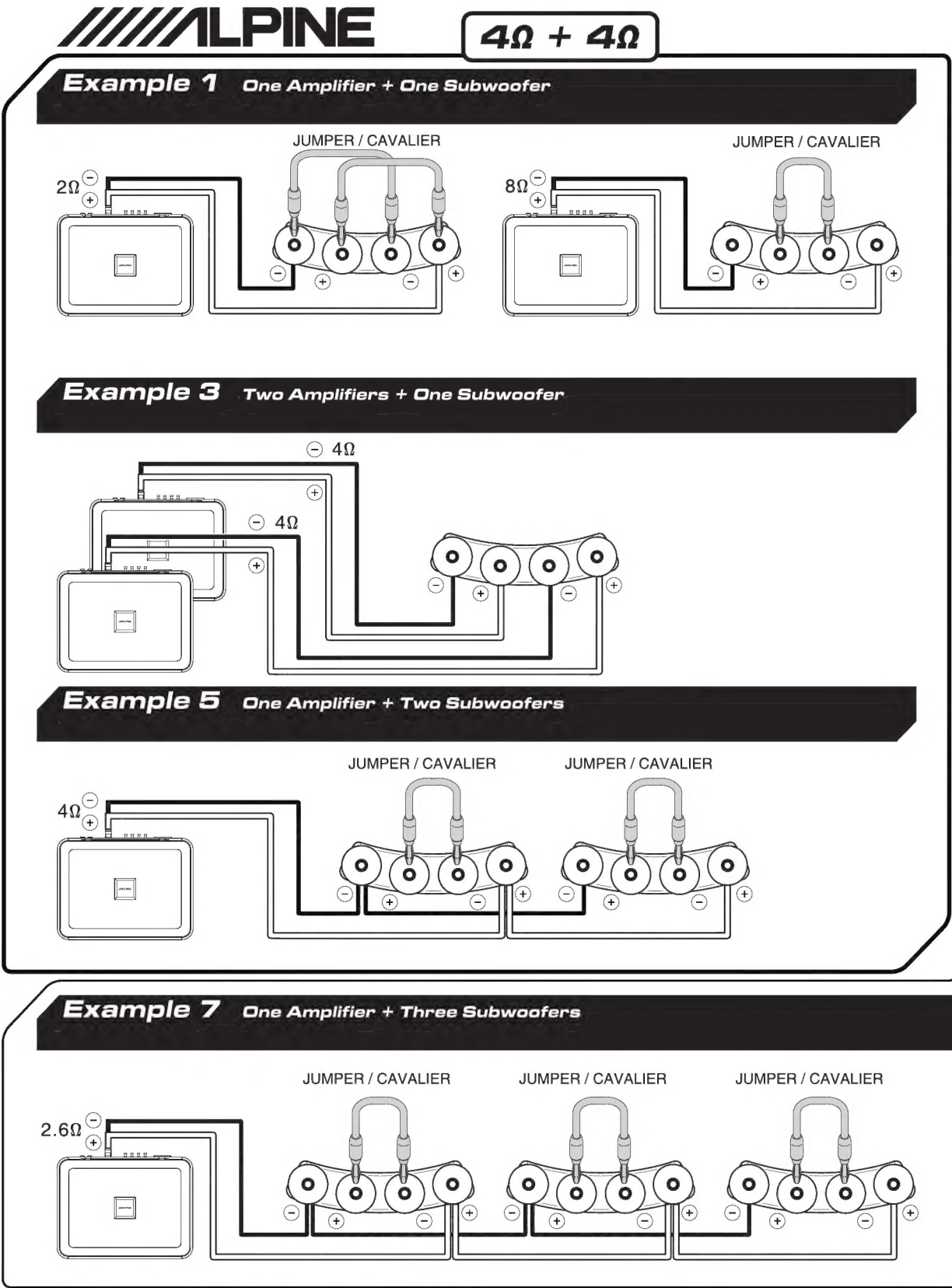
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## APPLICATION

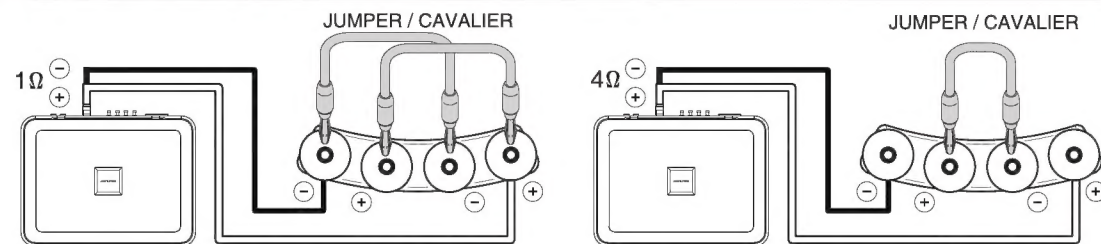
General Specifications		
Sealed	Taille	
Frequency Response	Response en Fréquence	
Power Range	Plage de Puissance	
Power Handling	Puisance Admissible	
Magnet Weight	Poids de l'aimant	
Voice Coil Diameter	Diamètre de la bobine	
Thiel-Small Parameters		
Sensitivity (1W/1m)	Sensibilité (1W/1m)	<i>SPL</i>
DC Resistance	Résistance CC	<i>Re</i>
Inductance	Inductance	<i>Le</i>
Free Air Resonance	Résonance à l'air libre	<i>Fs</i>
Equivalent Stiffness	Raiduer équivalente	<i>Vas</i>
Mechanical Q	Q Mécanique	<i>Qms</i>
Electrical Q	Q Électrique	<i>Qes</i>
Total Q	Q Total	<i>Qts</i>
Cone Area	Surface du diaphragme	<i>Sd</i>
Linear Excursion	Displacement Linéaire	Xmax (1-way)
Mechanical Travel	Déplacement Mécanique	Xmech (P-P)

Note: Specifications subject to change without notice

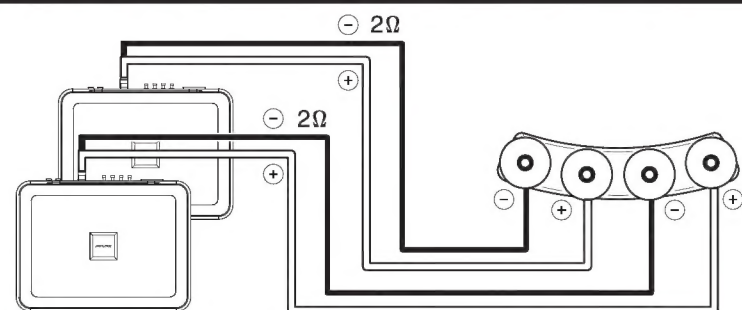
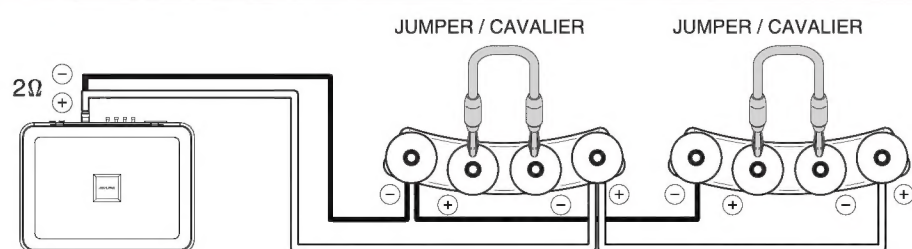
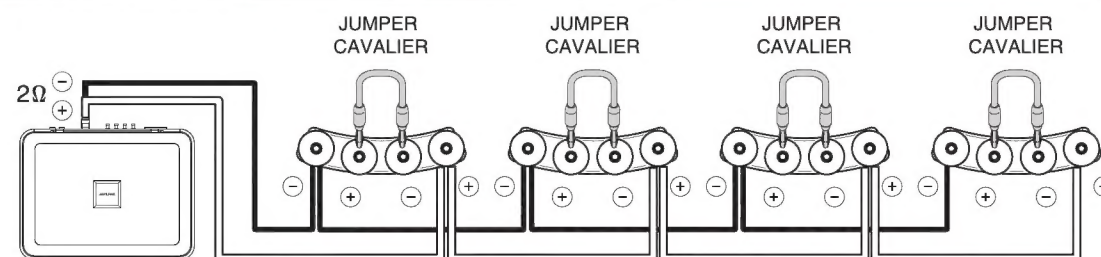
Type-S					
SWS-10D2	SWS-10D4	SWS-12D2	SWS-12D4	SWS-15D2	SWS-15D4
2Ω+2Ω	4Ω+4Ω	2Ω+2Ω	4Ω+4Ω	2Ω+2Ω	4Ω+4Ω
10"		12"		15"	
28Hz-200Hz		26Hz-200Hz		24Hz-200Hz	
150W-500W RMS (efficace)					
500W RMS (efficace) / 1500W PEAK (de crête)					
64 oz		64 oz		106 oz	
65.5 mm (2.6")					
85.1dB	85.5 dB	86.4 dB	86.5 dB	88.5 dB	88.7 dB
1.8Ω+1.8Ω	3.5Ω+3.5Ω	1.8Ω+1.8Ω	3.5Ω+3.5Ω	1.8Ω+1.8Ω	3.5Ω+3.5Ω
1.87 mH	4.84 mH	1.87 mH	4.84 mH	1.87 mH	4.84 mH
35 Hz		34 Hz		27 Hz	
25 L		44 L		107 L	
7.54	8.65	8.37	9.43	7.69	8.57
0.52	0.49	0.66	0.6	0.51	0.46
0.49	0.46	0.61	0.57	0.48	0.44
333 cm²		479 cm²		779 cm²	
15 mm					
64 mm		64 mm		68 mm	





**2Ω + 2Ω****SWS-10D4 / SWS-12D4 / SWS-15D4**  
**SWS-10D2 / SWS-12D2 / SWS-15D2****Example 2 One Amplifier + One Subwoofer**

**Caution ! Consult amplifier owner's manual for 1Ω connection.**  
**Attention : lire le manuel de l'amplificateur pour la connexion à 1Ω .**

**Example 4 Two Amplifiers + One Subwoofer****Example 6 One Amplifier and Two Subwoofers****Example 8 One Amplifier + Four Subwoofers**

**TYPE-S WIRING WORKSHEET**  
**CÂBLAGE POUR TYPE-S**

		SWS-10D2/D4	SWS-12D2/D4	SWS-15D2/D4
Sealed Box Range	Net Internal Volume	0.5-0.85 ft <sup>3</sup>	0.65-1.0 ft <sup>3</sup>	1.25-2.0 ft <sup>3</sup>
Recommended Sealed Box	External Box Dimensions	12"x12"x10"	14"x14"x11.5"	16"x16"x12.5"
	Gross Internal Volume	0.54 ft <sup>3</sup>	0.90 ft <sup>3</sup>	1.34 ft <sup>3</sup>
	Net Internal Volume	0.50 ft <sup>3</sup>	0.85 ft <sup>3</sup>	1.27 ft <sup>3</sup>
	F3, Qtc	D2: 54 Hz, 0.78 D4: 54 Hz, 0.73	D2: 47 Hz, 0.96 D4: 49 Hz, 0.91	D2: 46 Hz, 0.91 D4: 48 Hz, 0.83
Vented Box Range	Net Internal Volume	0.75-1.3 ft <sup>3</sup>	1.0-1.5 ft <sup>3</sup>	2.0-3.0 ft <sup>3</sup>
	Tuning	35-39Hz	32-37Hz	28-32Hz
Recommended Vented Box	External Box Dimensions	21.5"x12"x11.5"	22.5"x12.5"x14"	25"x15.5"x17.5"
	Gross Internal Volume	1.22 ft <sup>3</sup>	1.67 ft <sup>3</sup>	3.05 ft <sup>3</sup>
	Vent Area (dimensions)	10in <sup>2</sup> (10"x 1")	12.5in <sup>2</sup> (12.5"x 1")	20in <sup>2</sup> (16"x 1.25")
	Vent length	18"	18"	21"
	Vent Displacement	0.18 ft <sup>3</sup>	0.22 ft <sup>3</sup>	0.38 ft <sup>3</sup>
	Net Internal Volume (Vb)	1.0 ft <sup>3</sup>	1.4 ft <sup>3</sup>	2.6 ft <sup>3</sup>
	F3, ripple, Fb	D2: 32Hz, 3.1dB, 38Hz D4: 32Hz, 2.5dB, 38Hz	D2: 32Hz, 4.4dB, 36Hz D4: 31Hz, 4.1dB, 36Hz	D2: 29Hz, 3.1dB, 31Hz D4: 29Hz, 2.6dB, 31Hz

**Notes:**

1) Recommended enclosure net internal volume is based upon 3/4" (19mm) MDF enclosure construction.

2) Consult the table below for alternative enclosure net internal volume calculation.

Front Mount Displacement* (magnet in)	-0.04 ft <sup>3</sup>	-0.06 ft <sup>3</sup>	-0.07 ft <sup>3</sup>
Reverse Mount Added Volume* (magnet out)	+0.06 ft <sup>3</sup>	+0.08 ft <sup>3</sup>	+0.15 ft <sup>3</sup>

\*Based upon 3/4" (19mm) baffle thickness, with opening cut approximately to gasket inner diameter

		SWS-10D2/D4	SWS-12D2/D4	SWS-15D2/D4
Gamme Box Sealed	Net volume interne	0.5-0.85 pi <sup>3</sup>	0.65-1.0 pi <sup>3</sup>	1.25-2.0 pi <sup>3</sup>
recommended Boîte Scellé	Dimensions extérieures	12 po x12 po x10 po	14 po x14 po x11.5 po	16 po x16 po x12.5 po
	Volume intérieur brut	0.54 pi <sup>3</sup>	0.90 pi <sup>3</sup>	1.34 pi <sup>3</sup>
	Volume intérieur Net ***	0.50 pi <sup>3</sup>	0.85 pi <sup>3</sup>	1.27 pi <sup>3</sup>
	F3, Qtc	D2: 54 Hz, 0.78 D4: 54 Hz, 0.73	D2: 47 Hz, 0.96 D4: 49 Hz, 0.91	D2: 46 Hz, 0.91 D4: 48 Hz, 0.83
Gamme charge bass-reflex	Volume net interne	0.75-1.3 pi <sup>3</sup>	1.0-1.5 pi <sup>3</sup>	2.0-3.0 pi <sup>3</sup>
	mise au point	35-39Hz	32-37Hz	28-32Hz
recommended charge bass-reflex	Dimensions extérieures	21.5 po x12 po x11.5 po	22.5 po x12.5 po x14 po	25 po x15.5 po x17.5 po
	Volume intérieur brut	1.22 pi <sup>3</sup>	1.67 pi <sup>3</sup>	3.05 pi <sup>3</sup>
	Aire de l'évent (dimensions)	10in <sup>2</sup> (10 po x 1 po)	12.5in <sup>2</sup> (12.5 po x 1 po)	20in <sup>2</sup> (16 po x 1.25 po)
	Longueur de l'évent	18"	18"	21"
	déplacement de l'évent	0.18 pi <sup>3</sup>	0.22 pi <sup>3</sup>	0.38 pi <sup>3</sup>
	Volume intérieur Net (Vb)***	1.0 pi <sup>3</sup>	1.4 pi <sup>3</sup>	2.6 pi <sup>3</sup>
	F3, crête, Fb	D2: 32Hz, 3.1dB, 38Hz D4: 32Hz, 2.5dB, 38Hz	D2: 32Hz, 4.4dB, 36Hz D4: 31Hz, 4.1dB, 36Hz	D2: 29Hz, 3.1dB, 31Hz D4: 29Hz, 2.6dB, 31Hz

**Notes:**

1) Recommandé enceinte volume net interne est basée sur 3/4 "(19mm) de construction boîtier en MDF.

2) Consulter le tableau ci-dessous pour le calcul de filet d'enclos alternative volume interne.

Avant le déplacement du Mont * (aimant)	-0.04 ft <sup>3</sup>	-0.06 ft <sup>3</sup>	-0.07 ft <sup>3</sup>
Inverser Volume mont Ajouté * (des aimants)	+0.06 ft <sup>3</sup>	+0.08 ft <sup>3</sup>	+0.15 ft <sup>3</sup>

\* Sur la base de l'épaisseur du déflecteur 3/4" (19mm), avec une ouverture coupée à peu près à joint diamètre intérieur



**Reinforced Parabolic Cone Structure with  
Poly-Mica Dust Cap & Pulp-Kevlar Cone Body**

**High Amplitude Multi-Roll  
Santoprene® Surround**  
(Patent Pending)

**Concealed  
Mount Gasket**  
(Integrated Grille System  
Ready, US Pat #7,760,900)

**High Strength  
Steel Frame**

**Perimeter Venting with  
Airflow Management  
System** (US Pat #7,684,585)

**High-Excursion Underhung  
Voice Coil Configuration**

**Compound Radius Curve  
Extended Pole Geometry**  
(US Pat #6,639,993)

**Progressive Conex® Spider  
with Reinforced Layer  
Tinsel Leads** (US Pat #6,810,988)

**8AWG Push Terminals with  
VC Configuration Jumpers**

**High-Grade Strontium  
Ferrite Magnets**

**Dual Flare Pole Vent with  
Airflow Back Plate**

**65mm Voice coil with High-Temp DVC Winding on  
Spiral Cut Aluminum former** (D4 = 6-layer, D2 = Split 5-Layer)

